PLEASE ENTER THE FOLLOWING CLAIMS

110. A method of preparing a xenotransplantable porcine islet comprising the steps of:

(i) harvesting the pancreas of piglets from –20 to +10 days full term gestation, and
(ii) extracting pancreatic β islet cells from the harvested pancreas; and
(iii) exposing the islets to nicotinamide either before or after either the steps of harvesting or extracting.

111. The method as claimed in claim 110. wherein the piglets are from –7 to +10 days full term gestation.

112. The method as claimed in claim 110 wherein the step of xtraction includes the use of human Liberase.

113. The method of claim 110 wherein the harvested pancreas is in a supportive mammalian albumin substantially free of non-human microbiological agents.

114. The method of claim 113 wherein the mammalian albumin comprises human serum albumin (HSA).

115. The method of claim 110 wherein the step of exposing occurs after the step of extracting.

116. The method as claimed in claim 110 further comprising the step of treating the islets with one of IGF-1 and the N-terminal tripeptide of IGF-1 (GPE).

117. The method as claimed in claim 116 wherein the step of treating the islets comprises the treating thereof with GPE.

118. The method as claimed in claim 116 wherein the exposure to either of IGF-1 or GPE is greater for those cells from piglets furthest from full term gestation.

119. The method as claimed in claim 116 wherein the exposure to IGF-1 is unrelated to their relationship with full term gestation.

120. The method as claimed in claim 110 further comprising the step of subjecting at least one of the pancreas and the islets to a trauma protecting agent.

121. The method as claimed in claim 120 wherein the trauma protecting agent comprises an anaesthetic agent.

122. The method as claimed in claim 121 wherein the anaesthetic agent comprises lignocaine.

123. The method as claimed in claim 110 further comprising the step of mechanically reducing the harvested pancreas in the presence of an islet trauma protecting agent.

124. The method as claimed in claim 110 further comprising the step of associating a quinaline antibiotic with the islet cells.

125. The method as claimed in claim 124 wherein the quinaline antibiotic comprises ciproxin.

126. The method as claimed in claim 110 further comprising the steps of encapsulating the islet cells with a biocompatible xenotransplantable material, said material being both glucose and insulin porous, the biocompatible xenotransplantable material comprising a suitable alginate in ultra pure form.

127. The method as claimed in claim 126 wherein the step of encapsulating comprises the steps of:

(i) presenting islets and the suitable alginate in ultra pure form into a source of compatible cations; and

(ii) entrapping the islets in a cation-alginate gel.

128. The method as claimed in claim 127 wherein the cation alginate gel comprises calcium-alginate gel.

129. The method as claimed in claim 128 wherein the alginate in ultra pure form comprises sodium alginate.

130. The method as claimed in claim 129 wherein a resulting solution of islet and sodium alginate is of 1.6% w/w.

131. The method as claimed in claim 129 wherein the suitable cation comprises calcium chloride.

132. The method as claimed in claim 127 further comprising the steps of:

(i) coating the gel encased islets with a positively charged material; and

(ii) providing an outer coat of a suitable alginate.

133. The method as claimed in claim 132 wherein the positively charged material comprises a poly-L-ornithine.

134. The method as claimed in claim 132 further comprising the step of liquefying the gel entrapping the islets.

135. The method as claimed in claim 134 wherein the step of liquefying comprises the step of exposing the gel to sodium citrate.

136. The method as claimed in claim 134 further comprising the steps of:

(i) washing the outer coat of a suitable alginate; and
(ii) recoating the outer coat with a suitable alginate.

137. The method as claimed in claim 126 wherein the step of encapsulation produces at least one capsule.

138. The method as claimed in claim 137 wherein the at least one capsule includes a plurality of islet cells.

139. The method as claimed in claim 138 wherein the at least one capsule includes at least three islet cells.

140. The method as claimed in claim 137 wherein the at least one capsule includes a diameter of about 300 to 400 microns.

141. A method of treating a mammalian patient suffering from diabetes, the method comprising the steps of:
(i) extracting pancreatic β islet cells from the harvested pancreas; and
(ii) encapsulating the islet cells with a biocompatible xenotransplantable material, said material being both glucose and insulin porous;
(iii) introducing a trauma protecting agent during or prior to the step of encapsulating; and
(iv) transplanting into the mammalian patient an effective amount of viable islet cells capable of producing insulin in the patient.

142. The method as claimed in claim 141 wherein the trauma protecting agent is selected from suitable anaesthetic agents.

143. The method as claimed in claim 142 wherein the trauma protecting agent comprises lignocaine.

144. The method as claimed in claim 141 further comprising the step of subjecting the patient to a cholesterol lowering drug regime prior to, during or after the step of transplanting.

145. The method as claimed in claim 144 wherein the drug regime comprises one of the "statin" family.

146. The method as claimed in claim 145 wherein the drug regime comprises one of the group consisting of pravastatin and simvistatin.

147. The method as claimed in claim 141 further comprising the step of prescribing to the patient, prior to or after the transplanting step, a casein-free diet.

148. A method of treating a mammalian patient suffering from diabetes, the method comprising the steps of:

(i) extracting pancreatic β islet cells from the harvested pancreas; and

(ii) encapsulating the islet cells with a biocompatible xenotransplantable material, said material being both glucose and insulin porous;

(iii) transplanting into the mammalian patient an effective amount of viable islet cells capable of producing insulin in the patient; and

(iv) subjecting the patient to a cholesterol lowering drug regime prior to, during or after the step of transplanting.

149. The method as claimed in claim 148 wherein the drug regime comprises one of the "statin" family.

150. The method of claim 149 wherein the drug regime comprises one of the group consisting of pravastatin and simvistatin.

151. The method as claimed in claim 150 further comprising the step of prescribing to the patient, prior to or after the transplanting step, ~~a casein-free diet~~.